

transmitted signals of said waveguide, said impedance being alterable, each of said wall structures presenting a high impedance to a resonant frequency signal transmitted by said waveguide, the altering of said surface impedance causing the phase of said resonant frequency signal to change.

2. The waveguide of claim 1, wherein said wall structures present high impedance resonant L-C circuits to said resonant frequency, said impedance being altered to present a primarily capacitive impedance to said resonant frequency.

3. The waveguide of claim 1, wherein said wall structures present a high impedance to a signal at said resonant frequency which has an E field transverse to the waveguide axis and parallel to the wall structures, said impedance being altered to present a primarily capacitive impedance to said resonant frequency which has an E field transverse to the waveguide axis and parallel to the wall structures.

4. The waveguide of claim 3, wherein each of said impedance wall structures comprises:

a substrate of dielectric material having two sides;  
a conductive layer on one side of said dielectric material;

a plurality of mutually spaced conductive strips on the other side of said dielectric material, said strips separated by gaps and positioned parallel to said waveguide's longitudinal axis;

a plurality of conductive vias extending through said dielectric material between said conductive layer and said conductive strips; and

*2/16 (Pawid) Copy to B8*  
a means for altering said impedance presented to said transmitted signals of said waveguide.

*5* 5. The waveguide of claim *4*, wherein said conductive strips and dielectric substrate defines a series of L-C circuits to said resonant frequency signal having an E field transverse to said conductive strips.

*2/17* 3 7. The waveguide of claim *2*, wherein said conductive strips and said dielectric substrate present a capacitive impedance to said resonant frequency having an E field transverse to said conductive strips.

*2/17* [Added claim the following claim 8:]

*2/17* 8. The waveguide of claim 1, wherein said wall structures present high impedance resonant L-C circuits to said resonant frequency, said impedance being altered to present a primarily inductive impedance to said resonant frequency.

#### REMARKS

##### Specification

The examiner objected to the disclosure and suggested changes to over to the disclosure to overcome the objections. The examiner's suggested changes have been incorporated into the specification except those on page 9, line 5, page 12, line 16 and page 12, line 22. These recommended changes have been fully considered by the applicants and for the recommended changes on page 9, line 5 and page 12, line 16 appear to be overly limiting. The change recommended for page 12, line 22, appears repetitive of the sentence that follows the location of this

*BB* *A*